Experimental Lung Research

Volume 19 1993
ISSN 0190-2148

Taylor & Francis

Experimental Lung Research

EDITOR-IN-CHIEF

PAUL NETTESHEIM
Chief of Laboratory
Pulmonary Function and Toxicology, National Institute of Environmental Health Sciences
(Mailing address: NIEHS, P.O. Box 12233, Research Triangle Park, NC 27709, USA)

ASSOCIATE EDITORS

RICHARD C. BOUCHER
Professor of Medicine
University of North Carolina, School of Medicine
(Mailing address: 724 Burnett-Womack Bldg., 229H, University of North Carolina, School of Medicine, Chapel Hill, NC 21514, USA)

ARNOLD BRODY
Research Biologist
Pulmonary Pathology Group, National Institute of Environmental Health Sciences
(Mailing address: NIEHS, P.O. Box 12233, Research Triangle Park, NC 27709, USA)

Editorial Board

C. Basbaum, *USA*
E. R. Block, *USA*
T. F. Boat, *USA*
D. H. Bowden, *Canada*
J. D. Brain, *USA*
P. Camner, *Sweden*
D. Center, *USA*
E. D. Crandall, *USA*
C. E. Cross, *USA*
L. G. Dobbs, *USA*
J. M. Drazen, *USA*
J. Floros, *USA*
J. Goerke, *USA*
P. M. Henson, *USA*
H. B. Kaltreider, *USA*
C. Kuhn III, *USA*
R. J. Mason, *USA*
J. L. Mauderly, *USA*
S. I. Rennard, *USA*
U. S. Ryan, *USA*
R. M. Senior, *USA*
B. T. Smith, *Canada*
L. M. G. van Golde, *The Netherlands*
J. A. Whitsett, *USA*

Abstracted and/or Indexed in: *Biological Abstracts, Chemical Abstracts, Current Contents (Life Sciences), Excerpta Medica, Index Medicus,* and *Science Citation Index.*

Editorial Office: Paul Nettesheim, Chief of Laboratory, Pulmonary Function and Toxicology, National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, NC 27709, USA.

Publishing, Advertising, and Production Offices: Taylor & Francis, 1101 Vermont Ave., Suite 200, Washington, DC 20005, phone (202) 289-2174, fax (202) 289-3665, Joyce Duncan, Production Editor; or Taylor & Francis Ltd., Rankine Rd., Basingstoke, Hampshire RG24 0PR, UK. **Subscriptions Office:** 1900 Frost Rd., Suite 101, Bristol, PA 19007, phone (215) 785-5800, fax (215) 785-5515; or Taylor & Francis Ltd., Rankine Rd., Basingstoke, Hampshire RG24 0PR, UK, phone +44-256-840366, fax +44-256-479438.

Experimental Lung Research (ISSN 0190-2148) is published bimonthly by Taylor & Francis Ltd., 4 John Street, London WC1N 2ET, UK. Annual 1993 institutional subscription £234, US $400. Personal subscription rate UK £115, US $175; available to home address only and must be paid for by personal check or credit card.

Second-class postage is paid at Jamaica, New York 11431. U.S. Postmaster: Send address changes to Experimental Lung Research, Publications Expediting Services, 200 Meacham Avenue, Elmont, NY 11003.

Dollar rates apply to subscribers in all countries except the UK and the Republic of Ireland, where the sterling price applies. All subscriptions are payable in advance and all rates include postage. Subscriptions are entered on an annual basis, i.e., January to December. Payment may be made by sterling check, dollar check, international money order, National Giro, or credit card (AMEX, VISA, Mastercard/Access).

Orders originating in the following territories should be sent directly to: **Australia**—R. Hill & Son, Ltd., Suite 2, 119 Gardenvale Road, Gardenvale, Victoria 3185. **India**—Universal Subscription Agency Pvt. Ltd., 101-102 Community Centre, Malviya Nagar Extn., Post Bag No. 8, Saket, New Delhi. **Japan**—Kinokuniya Company, Ltd., Journal Department, P.O. Box 55, Chitose, Tokyo 156. **New Zealand**—R. Hill & Son, Ltd., Private Bag, Newmarket, Auckland 1. **USA, Canada, and Mexico**—Taylor & Francis, 1900 Frost Road, Suite 101, Bristol, PA 19007, USA. **UK and all other territories**—Taylor & Francis Ltd., Rankine Road, Basingstoke, Hampshire RG24 0PR, England.

Copyright © 1993 Taylor & Francis. All rights reserved. Printed in the United States of America. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by Taylor & Francis for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of $10.00 per copy, plus .00 per page is paid directly to CCC, 27 Congress St., Salem, MA 01970, USA.

The publisher assumes no responsibility for any statements of fact or opinion expressed in the published papers or in the advertisements. **Experimental Lung Research** is owned by Taylor & Francis.

♾ Printed on acid-free paper, effective with Volume 18, Number 1, 1992.

Experimental Lung Research

Volume 19 1993

Contents

Number 1

M. A. MYERS, D. A. THOMAS, L. STRAUB, D. W. SOUCY, R. W. NIVEN, M. KALTENBACH, C. I. HOOD, H. SCHREIER, AND R. J. GONZALEZ-ROTHI
Pulmonary Effects of Chronic Exposure to Liposome Aerosols in Mice 1

TIMOTHY W. ROBISON AND HENRY JAY FORMAN
Dual Effect of Nitrogen Dioxide on Rat Alveolar Macrophage Arachidonate Metabolism 21

D. F. ROGERS, E. W. F. W. ALTON, A. DEWAR, M. I. LETHEM, AND P. J. BARNES
Impaired Stimulus-Evoked Mucus Secretion in Cystic Fibrosis Bronchi 37

RAYMOND C. PERKINS, RONALD K. SCHEULE, RAYMOND HAMILTON, GLEN GOMES, GARY FREIDMAN, AND ANDRIJ HOLIAN
Human Alveolar Macrophage Cytokine Release in Response to In Vitro and In Vivo Asbestos Exposure 55

GURMUKH SINGH, SIKANDAR L. KATYAL, WILLIAM E. BROWN, AND AMY L. KENNEDY
Mouse Clara Cell 10-kDa (CC10) Protein: cDNA Nucleotide Sequence and Molecular Basis for the Variation in Progesterone Binding of CC10 from Different Species 67

A. GRAHAM, D. M. STEEL, R. WILSON, P. J. COLE, E. W. F. W. ALTON, AND D. M. GEDDES
Effects of Purified Pseudomonas Rhamnolipids on Bioelectric Properties of Sheep Tracheal Epithelium 77

GARY L. SANFORD, MARCIA ALLEN OWENS, AND BASIL M. ODUSANYA
Differential Influence of Dexamethasone on the Activity and Synthesis of β-Galactoside Specific Lectin (Galaptin) During Postnatal Lung Development 91

Number 2

HAMID SAHEBJAMI
Mini-Review: Nutrition and Lung Structure and Function 105

CHUL MIN AHN, HAKAN SANDLER, MITCHELL GLASS, AND TOM SALDEEN
Effect of a Synthetic Leukocyte Elastase Inhibitor on Thrombin-Induced Pulmonary Edema in the Rat 125

DONALD W. THIBEAULT, MO REZAIEKHALIGH, AND SHERRY MABRY
Lung Antioxidant Enzymes and Cardiopulmonary Responses in Young Rats Exposed to Hyperoxia and Treated Intratracheally with PEG Catalase and Superoxide Dismutase 137

MOSHE KALINA, SHOSHANA RIKLIS, AND HANNAH BLAU
Pulmonary Epithelial Cell Proliferation in Primary Culture of Alveolar Type II Cells 153

JEROME O. CANTOR, JOSEPH M. CERRETA, GERARD ARMAND, STEPHEN KELLER, AND GERARD M. TURINO
Pulmonary Air-Space Enlargement Induced by Intratracheal Instillment of Hyaluronidase and Concomitant Exposure to 60% Oxygen 177

A. BOUT, D. VALERIO, AND B. J. SCHOLTE
In Vivo Transfer and Expression of the lacZ Gene in the Mouse Lung 193

ATSUSHI NAGAI, HARUKO MATSUMIYA, SHUJI YASUI, KAZUTETSU AOSHIBA, YOKO ISHIHARA, AND KIMIO KONNO
Administration of Bromodeoxyuridine in Early Postnatal Rats Results in Lung Changes at Maturity 203

ROBERT K. WINN, WILLIAM J. MILESKI, NICHOLAS L. KOVACH, CLAIRE M. DOERSCHUK, CHARLES L. RICE, AND JOHN M. HARLAN
Role of Protein Synthesis and CD11/CD18 Adhesion Complex in Neutrophil Emigration into the Lung 221

JON C. CONNELLY AND BARRY T. PETERSON
Clearance of ^{99m}Tc-Labeled Albumin from Lungs in Anesthetized Guinea Pigs 237

MICHEL DENIS, DENIS BISSON, AND ESFANDIAR GHADIRIAN
Cellular and Cytokine Profiles in Spontaneous Regression Phase of Hypersensitivity Pneumonitis 257

R. BREUER, T. G. CHRISTENSEN, E. C. LUCEY, G. BOLBOCHAN, P. J. STONE, AND G. L. SNIDER
Elastase Causes Secretory Discharge in Bronchi of Hamsters with Elastase-Induced Secretory Cell Metaplasia 273

Number 3

JOHN Z. SHUMKO, RICHARD N. FEINBERG, ROBERT M. SHALVOY, AND DAVID O. DEFOUW
Responses of Rat Pleural Mesothelia to Increased Intrathoracic Pressure 283

MATTHEW IAN GILMOUR, PATRICIA PARK, DONALD DOERFLER, AND MARYJANE K. SELGRADE
Factors that Influence the Suppression of Pulmonary Antibacterial Defenses in Mice Exposed to Ozone 299

IRA H. GEWOLB, JOAN DEUTSCH, AND RALPH L. CAVALIERI
Fluorescence Anisotropy as an Index of Fetal Lung Maturation In Vitro 315

JOAN G. CLARK, DAVID K. MADTES, AND GANESH RAGHU
Effects of Platelet-Derived Growth Factor Isoforms on Human Lung Fibroblast Proliferation and Procollagen Gene Expression 327

VÉRONIQUE DUBAR, PHILIPPE GOSSET, COLETTE AERTS, CYR VOISIN, BENOÎT WALLAERT, AND ANDRÉ BERNARD TONNEL
In Vitro Acute Effects of Tobacco Smoke on Tumor Necrosis Factor α and Interleukin-6 Production by Alveolar Macrophages 345

ROBERT HUME, JEANNE BELL, MARGARET GOURLAY, MERETE GILES, ANNE HALLAS, DAVID COSSAR, AND RODNEY KELLY
Prostaglandin Production and Metabolism in Self-differentiating Human Fetal Lung Organ Culture 361

CHING-PING FANG, JULIE ESCH WILSON, DALIA M. SPEKTOR, AND MORTON LIPPMANN
Effect of Lung Airway Branching Pattern and Gas Composition on Particle Deposition in Bronchial Airways: III. Experimental Studies with Radioactively Tagged Aerosol in Human and Canine Lungs 377

W. STROHMAIER AND G. SCHLAG
Experimental Aspiration Trauma: Comparison of Steroid Treatment Versus Exogenous Natural Surfactant 397

Number 4

C. SELBY AND W. MACNEE
Factors Affecting Neutrophil Transit During Acute Pulmonary Inflammation: Minireview 407

JACQUELINE QUAY, GARY ROSENTHAL, AND SUSANNE BECKER
Effect of Pentamidine on Cytokine (IL-1β, TNFα, IL-6) Production by Human Alveolar Macrophages in Vitro 429

WOLFGANG G. KREYLING, CHRISTOPHER COX, GEORGE A. FERRON, AND GÜNTER OBERDÖRSTER
Lung Clearance in Long-Evans Rats after Inhalation of Porous, Monodisperse Cobalt Oxide Particles 445

R. SLADE, K. CRISSMAN, J. NORWOOD, AND G. HATCH
Comparison of Antioxidant Substances in Bronchoalveolar Lavage Cells and Fluid from Humans, Guinea Pigs, and Rats 469

DIMITRIS KOURETAS, ANNE M. KARINCH, ARUN RISHI, KLAUS MELCHERS, AND JOANNA FLOROS
Conservation Analysis of Rat and Human SP-A Gene Identifies 5′ Flanking Sequences of Rat SP-A that Bind Rat Lung Nuclear Proteins 485

MINGYAO LIU, JING XU, A. KEITH TANSWELL, AND MARTIN POST
Stretch-Induced Growth-Promoting Activities Stimulate Fetal Rat Lung Epithelial Cell Proliferation 505

Number 5

HARMANJATINDER S. SEKHON, CRAIG SMITH, AND WILLIAM M. THURLBECK
Effect of Hypoxia and Hyperoxia on Postpneumonectomy Compensatory Lung Growth 519

R. M. ARAHUETES, R. MADRID, S. CADENAS, C. ROJAS, R. PÉREZ-CAMPO, M. LÓPEZ-TORRES, AND G. BARJA
Effect of Early Maternal Adrenalectomy on Antioxidant Enzymes, GSH, Ascorbate, and Uric Acid in the Rat Fetal Lung at Term 533

JON A. HOTCHKISS, MICHELLE A. STAM, AND JACK R. HARKEMA
Platelet Activating Factor Stimulates Rapid Mucin Secretion in Rat Nasal Airways In Vivo 545

RUTH VOCK AND EWALD R. WEIBEL
Massive Hemorrhage Causes Changes in Morphometric Parameters of Lung Capillaries and Concentration of Leukocytes in Microvasculature 559

PIERRE F. PIGUET, GEORGES E. GRAU, AND SYLVIE DE KOSSODO
Role of Granulocyte-Macrophage Colony-Stimulating Factor in Pulmonary Fibrosis Induced in Mice by Bleomycin 579

EDMUND J. MILLER AND STEVEN IDELL
Interleukin-8: An Important Neutrophil Chemotaxin in Some Cases of Exudative Pleural Effusions 589

TERENCE L. ZACH, VICKI A. HERRMAN, LAURA D. HILL, AND M. PATRICIA LEUSCHEN
Effect of Steroids on the Synthesis of Complement C3 in a Human Alveolar Epithelial Cell Line 603

Erratum 617

Number 6

IRA H. GEWOLB
High Glucose Causes Delayed Fetal Lung Maturation In Vitro 619

KIYOTAKA ITO, HISATO YAMASAKI, KAORU ONOUE, AND MASAYUKI ANDO
Experimental Hypersensitivity Pneumonitis in Mice Induced by *Trichosporon cutaneum:* Histologic and Immunologic Features and Effect of In Vivo Depletion of T Cell Subsets 631

MARTIN ANDERSON, MAGNUS SVARTENGREN, MAGNUS DAHLBÄCK, OLA NERBRINK, KLAS PHILIPSON, AND PER CAMNER
Human Tracheobronchial Deposition and Effect of Two Cholinergic Aerosols 653

CHRISTINE E. NADZIEJKO, BRONISLAW L. SLOMIANY, AND AMALIA SLOMIANY
Most of the Lipid in Purulent Sputum Is Bound to Mucus Glycoprotein 671

SALIL K. DAS, SUKLA GHOSH, AND SHYAMALI MUKHERJEE
Role of Thyroid Hormone in De Novo Synthesis of Cholinephosphotransferase in Guinea Pig Lung Mitochondria and Microsomes 685

ALAN TUCKER AND DAVID G. PENNEY
Pulmonary Vascular Responsiveness in Rats Following Neonatal Exposure to High Altitude or Carbon Monoxide 699

RICHARD C. SCHAEFFER, JR., MICHAEL S. BITRICK, JR., BRETT CONNOLLY, ALFRED B. JENSON, AND FANGCHEN GONG
Pichinde Virus-Induced Respiratory Failure Due to Obstruction of the Small Airways: Structure and Function 715

MICHAEL H. BAUMANN, KATHY HEINRICH, STEVEN A. SAHN, CRISTA GREEN, RUSSELL HARLEY, AND CHARLIE STRANGE
Electron Microscopic Analysis of the Normal and the Activated Pleural Macrophage 731

Following Page 742

Title Page to Volume 19
Contents of Volume 19
Author Index to Volume 19
Subject Index to Volume 19